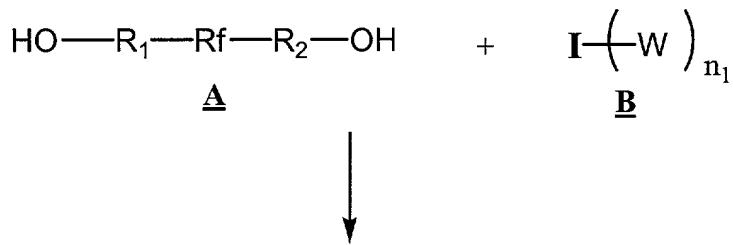


Claims

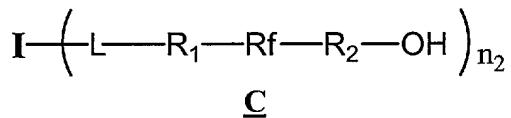
1 1. A fluorinated multifunctional alcohol synthesized from at least one core molecule
 2 having at least three equivalents of hydroxy-reacting functional groups and at least one
 3 fluorinated molecule having at least two hydroxyl groups.

1 2. The multifunctional alcohol of Claim 1 wherein there are at least 1.5 equivalents of
 2 hydroxyl groups from the fluorinated molecule for every hydroxy-reacting group from the core
 3 molecule.

1 3. The multifunctional alcohol of Claim 1 synthesized using the reaction scheme:



An alcohol product mixture containing



2 wherein **A** is a fluorinated monomer or polymer having two hydroxyl groups, wherein Rf is a
 3 monomeric or polymeric perfluorinated alkylenediyl, oxyalkylene, arylenediyl, oxyarylene, and
 4 mixtures thereof, and R₁ and R₂ are monomeric or polymeric divalent moieties such as
 5 alkylenediyl, oxyalkylene, alkylene sulfide, arylenediyl, oxyarylene, arylene sulfide, siloxane,
 6 and mixtures thereof; **B** is a multifunctional molecule wherein **I** is a core moiety, **W** stands for

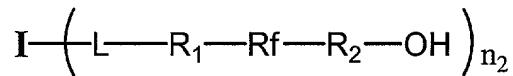
8 one equivalent of hydroxy-reacting group and n_1 is at least 3; **C** is the multifunctional alcohol
9 product mixture from **A** and **B**, wherein L is an ether, ester or urethane link and n_2 is at least 3.

1 4. The multifunctional alcohol of Claim 3 wherein n_1 and n_2 range from 3 to 6.

1 5. The multifunctional alcohol of Claim 3 wherein there are at least 2.5 OH groups from
2 **A** for every equivalent of hydroxy-reacting group, **W**, from **B**.

1 6. The multifunctional alcohol of Claim 3 wherein L is an ester link.

1 7. The multifunctional alcohol of Claim 3 having the formula of



3 wherein n_2 ranges from 3 to 6.

1 8. The multifunctional alcohol of Claim 3 wherein Rf is a perfluorinated polymethylene
2 moiety having at least 4 carbon atoms.

1 9. The multifunctional alcohol of Claim 3 wherein Rf is a perfluorinated
2 poly(oxyalkylene) moiety having at least 4 carbon atoms.

1 10. The multifunctional alcohol of Claim 3 wherein **B** is selected from a group
2 consisting of multifunctional carboxylic acid, acid chloride, ester, and anhydride.

1 11. The multifunctional alcohol of Claim 3 wherein **B** is selected from 1,3,5-
2 benzenetricarbonyl trichloride, trimethyl-1,3,5-benzenetricarboxylate and 1,2,4-
3 benzenetricarboxylic acid.

1 12. The multifunctional alcohol of Claim 3 wherein **B** is selected from 1,2,3,4-
2 butanetetracarboxylic acid and tetraethyltrimethyl-1,1,2,2-ethanetetracarboxylate.

1 13. A multifunctional acrylate prepared from the fluorinated multifunctional alcohol of
2 Claim 1.

1 14. A multifunctional acrylate prepared from the fluorinated multifunctional alcohol of
2 Claim 3.

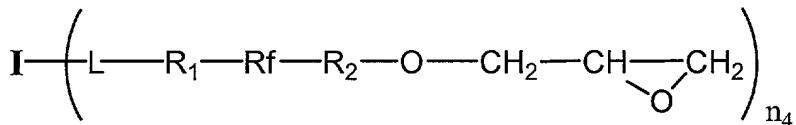
1 15. The fluorinated multifunctional acrylate of Claim 13 having a number average
2 molecular weight of at least 500.

1 16. A multifunctional acrylate prepared from the fluorinated multifunctional alcohol of
2 Claim 7.

1 17. A polymer coating composition containing at least one acrylate of Claim 13.

1 18. A multifunctional glycidyl ether prepared from the fluorinated multifunctional
2 alcohol of Claim 1.

1 19. The multifunctional glycidyl ether of Claim 18 having the formula of

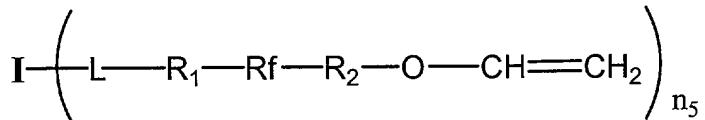


3 wherein **I** is a multivalent radical; **L** is selected from a group of ether, ester and urethane links;
4 **R₁** and **R₂** are monomeric or polymeric divalent radicals such as alkylene diyl, oxyalkylene,
5 alkylene sulfide, arylene diyl, oxyarylene, arylene sulfide, siloxane, and mixtures thereof; **R_f** is a

6 monomeric or polymeric perfluorinated alkylenediyI, oxyalkylene, arylenediyI, oxyarylene, and
7 mixtures thereof; and n₄ ranges from 3 to 6.

1 20. A multifunctional vinyl ether prepared from the fluorinated multifunctional alcohol
2 of Claim 1.

21. The multifunctional vinyl ether of Claim 20 having the formula of



5 wherein I is a multivalent radical; L is selected from a group of ether, ester and urethane links;
R₁ and R₂ are monomeric or polymeric divalent radicals such as alkylenediyI, oxyalkylene,
alkylene sulfide, arylenediyI, oxyarylene, arylene sulfide, siloxane, and mixtures thereof; Rf is a
monomeric or polymeric perfluorinated alkylenediyI, oxyalkylene, arylenediyI, oxyarylene, and
mixtures thereof; and n₅ ranges from 3 to 6.